

***Deinandra conjugens* (Otay Tarplant)**

Introduction

The MSCP Biological Monitoring Plan (1996) identifies Proctor Valley as an MSCP *Deinandra conjugens* monitoring location. The majority of the *D. conjugens* population in this area occurs on U.S. Fish and Wildlife Refuge land; however, a small portion occurs on City of San Diego Water Department land. The City has monitored this population since 2003.

Results

Site	Lead Monitor/s	Date	Method*	Result
Proctor Valley	Johnson	June 9, 2005	Belt Transect, GPS	Population Area = 3,347 m ² Density = 1.65 plants/m ²

*Please see the *City of San Diego MSCP Rare Plant Monitoring: Field Monitoring Methods* manual for a full description of plant monitoring methods and locations.

In 2005, transect counts were performed similar to 2003 methodology on the transects established in 2003. However, a large area of *D. conjugens* occupied habitat was discovered and mapped on the hill adjacent to the previously-identified population (in 2003). It is unclear whether this area is newly established or was not surveyed in 2003; however, based on the similar density and structure to the eastern ridge, it is likely the species occupied the area in previous years.

Because of the larger population area and the fact that transects were established based only on the eastern portion of the population (1,903 m²), population estimates can only be considered reliable for the eastern portion of the population. The estimated population of the eastern area (same area monitored in 2003 and 2004) is 3,130 plants/m². In 2003 this area had an estimated population of 45,737 (density 24.04 plants/m²) and in 2004, the censused population was 25 (density 0.01 plants/m²).

If it is assumed that the transects selected in 2003 are representative of the entire population, including the newly discovered western slope population, the estimated total site population would be 5,506 *D. conjugens* plants. It should be noted, however, that this is an unreliable assumption; transects must be allocated throughout the entire plant population in future years to make reliable projections of population.

Several non-native species were noted in the area, primarily non-native grasses such as *Bromus* sp., *Avena* sp., and *Lolium perenne*. *Centaurea melitensis* is also dispersed throughout the site, and *Salsola tragus* occurs along the dirt trail that bisects the population. There are numerous illegal off-road trails throughout this area that have impacted habitat.

Analysis

The estimated population of the eastern area (which is comparable to previous years) was higher than in 2004, but lower than 2003, which was a lower rainfall year (Table 1).

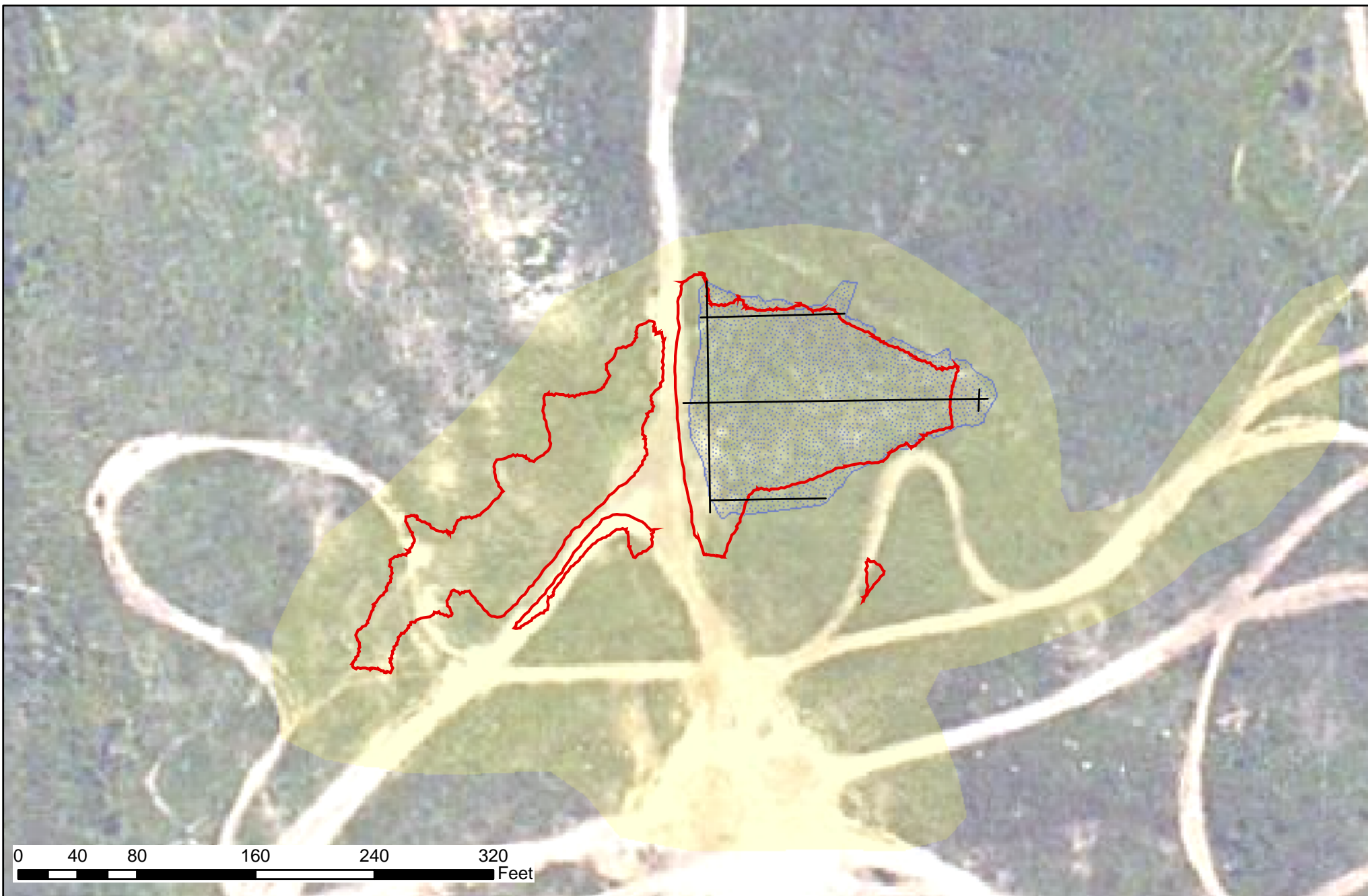
Table 1. Proctor Valley eastern slope *D. conjugens* plant counts and rainfall (by water year, Oct-Sept)

Year	Rainfall (inches)	Estimated Population (Eastern Slope)
2003	10.24	45,737
2004	5.31	25
2005	22.81	3,130

Thus, it appears that *Deinandra conjugens* populations are somewhat positively correlated with rainfall. However, 2005 counts would be expected to be as high or higher than 2003 based on rainfall alone. The low numbers may be a result of relatively high non-native grass populations in the area; however, this was generally the same in 2003. Monitoring staff performing plant counts has been different from year to year, which can contribute to error. Low population during the previous year (thus low seed stock, depending on viability length) was considered; however, 2002 was an extremely dry year, with only 3.44" of rain. Regional trend analysis may elucidate this issue.

Management Recommendations

Non-native species such as *Bromus* sp., *Avena* sp., *Lolium perenne*, *Centaurea melitensis* and *Salsola tragus* should be controlled in the area. Off-road activity should be controlled through this entire region.



- 2005 Population
- 2003 Population
- Approximate Survey Area
- Permanent Transects

Deinandra conjugens
Proctor Valley
Survey Date: June 9th, 2005

Source: M. Johnson, L. Hierl,
K. Syverson, J. Atha

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Proctor Valley, June 9, 2005



Transect 3 (north transect), facing east



Transect 2 (middle transect), facing east



Transect 1 (southern transect), facing east



Monitoring site panorama from top of slope/trail, facing northwest, north, northeast (photos merged using Canon PhotoStitch, v.3.1).



Panorama of eastern monitoring area, facing northeast, east and southeast (photos merged using Canon PhotoStitch, v.3.1).